

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

ELNORA CARTHAN, et al.,
Plaintiffs,

v.

RICK SNYDER, et al.,
Defendants.

Case No. 5:16-cv-10444-JEL-MKM
Hon. Judith E. Levy

**DEFENDANTS VEOLIA NORTH AMERICA, LLC, VEOLIA NORTH
AMERICA, INC., AND VEOLIA WATER NORTH AMERICA
OPERATING SERVICES, LLC'S OMNIBUS REPLY IN SUPPORT OF
THEIR MOTIONS TO EXCLUDE CERTAIN OPINIONS AND RELATED
TESTIMONY OF CLASS PLAINTIFFS' EXPERTS**

CONTROLLING OR MOST APPROPRIATE AUTHORITIES

Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993)

Everlight Elecs. Co. v. Nichia Corp., No. 12-cv-11758, 2014 WL 4707053 (E.D. Mich. Sept. 22, 2104)

Gen. Elec. Co. v. Joiner, 522 U.S. 136 (1997)

Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999)

In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods. Liab. Litig. (No. II), 892 F.3d 624 (4th Cir. 2018)

Lowery v. Enbridge Energy Ltd. P'ship, 500 Mich. 1034 (2017)

McClain v. Metabolife Int'l, Inc., 401 F.3d 1233 (11th Cir. 2005)

Nelson v. Tenn. Gas Pipeline Co., 243 F.3d 244 (6th Cir. 2001)

Powell-Murphy v. Revitalizing Auto Cmtys. Env't Response Tr., 333 Mich. App. 234 (2020)

Tamraz v. Lincoln Elec. Co., 620 F.3d 665 (6th Cir. 2010)

Fed. R. Evid. 403

Fed. R. Evid. 702

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INTRODUCTION

Defendants Veolia North America, LLC, Veolia North America, Inc., and Veolia Water North America Operating Services, LLC (VNA) filed nine motions to exclude certain opinions and testimony of the Plaintiffs' expert witnesses.¹ Plaintiffs filed a consolidated opposition to VNA's motions. *See* Omnibus Br. in Opp., ECF No. 2508, PageID.82951 (Opp.). VNA therefore files this consolidated reply in support of its nine motions.

Before addressing why each *Daubert* motion should be granted, VNA first addresses Plaintiffs' arguments that apply more globally.

Plaintiffs first contend that VNA "did not heed the Court's advice" and has taken a "kitchen-sink approach to *Daubert* motions." Opp. 1, PageID.82962. That is incorrect. VNA's motions target particular opinions, and some are quite narrow. For example, VNA's motion on Plaintiffs' standard-of-care expert, Dr. Larry Russell, seeks to exclude only his opinions and testimony relating to the pipe sampling that he conducted. Similarly, VNA's motion on Plaintiffs' general-

¹ Specifically, VNA has filed *Daubert* motions addressing the testimony of Dr. Larry Russell, ECF No. 2454, PageID.77608 (Russell Br.), Dr. Paolo Gardoni, ECF No. 2460, PageID.79477 (Gardoni Br.), Dr. Clifford Weisel, ECF No. 2455, PageID.77821 (Weisel Br.), Dr. Panos Georgopoulos, ECF No. 2483, PageID.82209 (Georgopoulos Br.), Dr. Howard Hu, ECF No. 2461, PageID.79815 (Hu Br.), Dr. Robert Michaels, ECF No. 2456, PageID.78183 (Michaels Br.), Dr. David Keiser, ECF No. 2458, PageID.79036 (Keiser Br.), Dr. Robert A. Simons, ECF No. 2462, PageID.80203 (Simons Br.), and Dr. Daryn Reicherter, ECF No. 2459, PageID.79240 (Reicherter Br.).

causation expert, Dr. Howard Hu, seeks to exclude only his testimony about particular unproven health effects and his testimony that Flint water specifically (as opposed to lead exposure generally) was harmful. VNA's motion on Dr. David Keiser argues only that his calculation of the *amount* of lost property value should be excluded. Each of VNA's other motions is equally careful and well-considered, and Plaintiffs' attacks are misplaced.

Plaintiffs also suggest that VNA's motions repeat arguments that were made in *Daubert* motions filed at the class-certification phase and "largely failed." Opp. 1, PageID.82962. That is not correct, either. VNA's previous motions as to six experts were denied as moot because the Court deemed the experts' opinions irrelevant to the class-certification decision, and the Court therefore did not reach the merits of those motions. Plaintiffs disclosed Dr. Michaels as an expert after the issues class was certified, and VNA's motion addresses his new opinions. VNA's motion on Dr. Russell also addresses new opinions disclosed after class certification. Only in its motion concerning Dr. Gardoni does VNA raise arguments that the Court rejected at the class-certification phase. But the Court emphasized at that time that it was "not performing its typical *Daubert* role of gatekeeping for a *jury*, but [was] instead determining whether the proposed experts will assist the *Court* in making a pure determination of law." Second Am. Op. & Order Granting in Part and Denying in Part Pls.' Mot. to Certify Class 143, ECF No. 1957, PageID.68146 (Class Cert.

Order). It is entirely appropriate for VNA to resubmit those arguments for a full-blown *Daubert* analysis before trial.

Plaintiffs also argue that VNA's motions attack their experts' conclusions rather than their methodologies and raise objections that go to the weight of their testimony rather than its admissibility. Opp. 1-2, 13-14, PageID.82962-82963, 82974-82975. Again, that is mistaken. VNA's motions highlight serious shortcoming in the experts' qualifications, their methodologies, and the factual underpinnings of their opinions. The cases cited in support of each motion demonstrate that these failings justify exclusion of the challenged testimony.

Finally, Plaintiffs object to both the substance and timing of VNA's arguments that certain damages opinions are irrelevant. Opp. 6, 143, PageID.82967, 83104. But as part of its "basic gatekeeping obligation" under Rule 702, the Court must ensure the "relevancy of expert testimony." *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147, 152 (1999). In seeking class certification, Plaintiffs submitted expert declarations in an effort to establish class-wide injury and damages and to support a class-wide remedy. Under the Court's class-certification orders, however, those issues are reserved for individual trials. Yet Plaintiffs still plan to have their experts give opinions about class-wide injury and damages in the issue-class trial. These opinions will not "help the trier of fact to understand the evidence or to

determine a fact in issue,” Fed. R. Evid. 702(a), during the upcoming trial. And, if admitted, they will greatly expand the trial. They should be excluded.

ARGUMENT

I. Dr. Russell’s Challenged Pipe Inspection Opinions And Related Testimony Should Be Excluded

A. Dr. Russell’s Opinion That Copper Pipes Lost Wall Thickness Is Unreliable

Dr. Russell’s opinion that copper pipes lost wall thickness in 2014-2015 is unreliable because his own 0.026-inch wall-thickness measurements from his pipe sampling are within the allowable range for new copper pipe. Dr. Russell assumes that the pipe walls had an original thickness of 0.028 inches based on the ASTM specification, but ignores that the same specification provides a tolerance of plus or minus 0.003 inches. Russell Br. 6-9, PageID.77619-77622.

After VNA’s expert, Dr. Crowe, pointed out this obvious methodological flaw, Dr. Russell attempted to salvage his opinions by claiming that the 0.003-inch tolerance means that the pipe “can only be thicker than 0.028.” Ex. 7, 2023 Russell Dep. 103:4-9, ECF No. 2454-8, PageID.77805. Plaintiffs make no attempt to defend Dr. Russell’s plainly unreliable opinion. The ASTM specification expressly states that “[a]ll tolerances are *plus and minus* unless otherwise indicated.” Ex. 5, ASTM B 88-03, tbl.1, ECF No. 2454-6, PageID.77748 (emphasis added).

Plaintiffs instead change course and argue—with no support from Dr. Russell himself—that the tolerance requires a “baseline wall thickness” of 0.028 inches with

only isolated manufacturing deviations at particular points along a pipe. Opp. 42-43, PageID.83003-83004. Dr. Russell never offered that reading of the ASTM specification in any of his reports or depositions. To the contrary, he repeatedly asserted that “copper pipe is *uniformly* manufactured to the *minimum* wall thickness allowed by B 88 to save the manufacturer money.” Ex. 4, Rebuttal Rep. 28, ECF No. 2454-5, PageID.77733 (emphasis added); *accord* Ex. 3, 2022 Russell Dep. 167:8-168:1, ECF No. 2454-4, PageID.77687-77688. Plaintiffs simply ignore Dr. Russell’s report and deposition testimony. In any event, the ASTM specification’s plain language is clear. The tolerance is the “[m]aximum deviation at any one point,” which ensures that all parts of a pipe are within the tolerance. Ex. 5, ASTM B 88-03, tbl.1 n.B, ECF No. 2454-6, PageID.77748.

Plaintiffs’ latest argument is also contradicted by Dr. Crowe’s measurements of new, off-the-shelf copper pipe—which confirm that the wall thickness of new pipe is less than 0.028 inches. Plaintiffs attack Dr. Crowe’s measuring device, Opp. 44-45, PageID.83005-83006, but contrary to Plaintiffs’ assertions, Dr. Crowe used a professional-grade caliper that is accurate to 0.0005 of an inch, Ex. B, Crowe Rebuttal Rep. 5. If Dr. Russell doubted Dr. Crowe’s measurements of new copper pipe, he could have requested access to Dr. Crowe’s samples of new pipe to perform his own measurements, or simply purchased new pipe himself. Tellingly, Dr.

Russell failed to take either of those steps. Thus, Dr. Russell has no measurements of new copper pipe to support his opinions.

Dr. Russell's copper-pipe opinions do not present a battle of the experts. Opp. 45, PageID.83006. The very ASTM specification on which Dr. Russell relies confirms that copper pipe samples from Flint are within the specification for new pipe. *See, e.g., Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 145-46 (1997) (holding that experts' opinions were not reliable because their own cited studies did not support their opinions). Plaintiffs' belated attempt to offer a new reading of the specification not offered by their own expert (and in fact contradicted by him) confirms the unreliability of Dr. Russell's opinions and methodology.

B. Dr. Russell's Opinion That Galvanized Steel Pipes Experienced Through-Wall Pitting As A Result Of Water Conditions In 2014-2015 Is Unreliable

Dr. Russell's attempt to attribute through-wall pitting on galvanized steel pipe samples from a single home in Flint to water conditions in 2014-2015 also is unreliable. Plaintiffs largely ignore the three fundamental flaws in Dr. Russell's opinion: (1) the pipes were likely 84 years old and had long exceeded their expected service life when Dr. Russell removed them from service; (2) through-wall pitting is not unusual for older, galvanized steel pipe and is not unique to Flint; and (3) Dr. Russell admittedly does not know when the through-wall pitting on the pipe samples occurred. Russell Br. 9-10, PageID.77622-77623.

Plaintiffs primarily argue that Dr. Russell has other bases besides his pipe inspection for opining that water conditions in 2014-2015 were capable of damaging pipes. Opp. 46-48, PageID.83007-83009. To the extent that Dr. Russell has other bases for opining on pipe damage, VNA is not seeking to prevent him from testifying about those bases and will address them at trial. VNA's motion focuses on Dr. Russell's pipe inspection and his speculative and unsupported attempts to attribute through-wall pitting on his pipe samples to water conditions in 2014-2015.

Plaintiffs assert that through-wall pitting could not have occurred before 2014 because if it had the pipes "could not possibly have survived to the present." Opp. 46-47, PageID.83007-83008. Yet the pipes clearly continued to function long after 2014-2015—they were still part of the residence's active plumbing system when Dr. Russell removed them in 2022.² Dr. Russell has no basis to opine that through-wall pitting occurred in 2014-2015 as opposed to 2013, 2016, or any other year before or after the water switch. He can only speculate, and speculation is not a reliable methodology.

Similarly, Plaintiffs argue that Dr. Russell admitted only that he does not know when the pitting actually broke through the pipe wall, not that he lacks a basis for believing that the through-pitting began after the change in water source.

² There is a ready reason why pipes with through-wall pitting can remain in service for years: When through-wall pitting occurs, the pit fills with scale and other deposits, forming a plug. Ex. C, Crowe Dep. 114:25-116:12.

Opp. 49, PageID.83010. Again, however, Dr. Russell has no basis to opine that the corrosion that led to the through-wall pitting occurred in 2014-2015. The pipes were likely 84 years old, and old galvanized steel pipes corrode and experience pitting entirely apart from any issue with water conditions in Flint in 2014-2015.

C. Dr. Russell's Opinion That All Galvanized Steel And Copper Pipes Throughout Flint Are Damaged Is Unreliable And Irrelevant

Dr. Russell inappropriately extrapolates from pipe samples from one or two residences to draw conclusions about City-wide pipe damage and remedies. These opinions are unreliable and irrelevant. Russell Br. 12-13, PageID.77625-77626.

Plaintiffs seek to blame the limited scope of Dr. Russell's pipe inspection on VNA, asserting that Dr. Russell "simply mirrored" the homes inspected by Dr. Crowe in 2020. Opp. 51, PageID.83012. Of course, when Dr. Crowe performed home inspections, he simply visited the homes offered for inspection *by Plaintiffs*. Ex. 6, Crowe Rep. 7, 30, ECF No. 2454-7, PageID.77761, 77784. Thus, it was Plaintiffs, not VNA, who established the scope of inspections. Regardless, it was Dr. Russell's responsibility as an expert witness to ensure that he had a reliable basis for the opinions he chose to offer. Dr. Russell was retained by lawyers representing thousands of plaintiffs in Flint and (unlike VNA) presumably had access to however many residences he wanted to visit.

Plaintiffs also suggest that this is a rare case in which a sample size of one is sufficient because showing that the water was capable of causing harm in one home

shows that it was capable of causing harm in others. Opp. 51-52, PageID.83012-83013. As demonstrated above, however, Dr. Russell did not reliably conclude that water conditions in 2014-2015 caused harm to the pipes from the two homes he inspected. Dr. Russell's attempt to then use those findings to extrapolate across the entire City adds yet another layer of unreliability. For example, Dr. Russell observed four through-wall pits on galvanized pipe from the Davis residence that was likely 84 years old and concluded that four pits represent a failed piping system. Ex. 4, Russell Rebuttal Rep. 26, ECF No. 2454-4, PageID.77731. Yet Dr. Russell can only speculate about the number of through-wall pits in different homes constructed at different times in different parts of the City with piping of various ages.

Dr. Russell's extrapolation is also irrelevant to the issue that will be decided by the jury—whether water conditions in Flint in 2014-2015 were capable of causing damage to pipes and fixtures. Plaintiffs argue that evidence that “water *in fact caused* harm,” including the “magnitude,” “is probative to the question of whether it is *capable* of doing so.” Opp. 6, 52, PageID.82967, 83013. But Dr. Russell's limited inspection is not evidence of the magnitude of any harm. His speculative attempts to extrapolate are not evidence and do not make it more or less likely that water conditions in 2014-2015 were capable of causing pipe damage.

II. Dr. Gardoni's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Gardoni Is Not Qualified To Opine That VNA Failed To Meet The Standard Of Care

In its opening brief, VNA acknowledged the Court's statement that Dr. Gardoni is qualified to discuss engineering ethics standards generally, but argued that his lack of specialized knowledge about water treatment makes him unqualified to testify about whether VNA's water-treatment consulting work satisfied professional standards. Plaintiffs fail to show that Dr. Gardoni is qualified to give opinions on that topic.³

Plaintiffs implicitly concede that Dr. Gardoni lacks water-treatment expertise, but contend that his knowledge about "ethical principles . . . that *any* professional engineer should know" qualifies him "to opine on their application to the professional engineers in this case." Opp. 24, PageID.82985 (emphasis is Plaintiffs'). That is akin to arguing that a podiatrist may testify as an expert on the standard of care for neurosurgery because all doctors are governed by the Hippocratic oath. But under Rule 702, "unless [a putative engineering expert] is to

³ Plaintiffs' consolidated opposition also repeatedly refers to their certification-stage opposition brief. Opp. 20, 22, 28, 29, 32, 37. PageID.82981, 82983, 82989, 82990, 82993, 82998. VNA incorporates by reference the responsive portions of its reply in support of its certification-stage *Daubert* motion relating to Dr. Gardoni. ECF No. 1768, PageID.62981-63013. In this reply brief, VNA addresses the arguments made in Plaintiffs' most recent brief.

testify only to general engineering principles that any mechanical engineer would know, the engineer must possess ‘some special skill, knowledge or experience’ concerning the particular issue before the court.” *See Everlight Elecs. Co. v. Nichia Corp.*, No. 12-cv-11758, 2014 WL 4707053, at *9 (E.D Mich. Sept. 22, 2104).

Dr. Gardoni does not limit his testimony to “general . . . principles” of engineering ethics, *id.*, but seeks to give specific opinions about VNA’s adherence to the standard of care for water-treatment consulting services, *see* Gardoni Br. 4, PageID.79487 (summarizing opinions). For example, he seeks to testify that VNA “fail[ed] to fulfill its professional responsibilities” because it “did not disclose concerns about the presence of highly corrosive water in Flint’s water distribution system,” “did not recommend the need for corrosion control to address corrosive water,” and did not “recommend an immediate switch back to Detroit water as the most quick and effective way to address the City’s urgent water quality problems.” Gardoni Rep. 11, ECF No. 1208-114, PageID373172. Dr. Gardoni has no specialized knowledge qualifying him to testify about these topics.

Citing the Court’s observation that “experts rely on other experts,” Opp. 24, PageID.82985, Plaintiffs argue that Dr. Gardoni may rely on Dr. Russell’s conclusions about VNA’s performance, *id.* It is one thing for an expert to rest an opinion in part on assumptions derived from another expert’s opinions; it is quite another for an unqualified expert “to be the mouthpiece of a scientist in a different

specialty.” *Dura Auto. Sys. of Indiana, Inc. v. CTS Corp.*, 285 F.3d 609, 614 (7th Cir. 2002). While the former may be permissible in certain circumstances, the latter is not. *See id.* (“A theoretical economist . . . would not be allowed to testify to the findings of an econometric study conducted by another economist if he lacked expertise in econometrics.”). Plaintiffs say that this concern is misplaced because Dr. Gardoni will not testify “in place of” Dr. Russell, Opp. 24, PageID.82985, but they cite no precedent for allowing one testifying expert to adopt and repeat the opinions of another testifying expert in a different field. Dr. Gardoni may not parrot Dr. Russell’s views about VNA’s supposed failings when he is unqualified to deliver them himself.

B. Dr. Gardoni’s Opinions Are Unreliable

1. Dr. Gardoni Failed To Review The Relevant Facts

VNA explained that Dr. Gardoni’s opinions are unreliable because he did not review key evidence that is essential to those opinions. Gardoni Br. 13-17, PageID.79496-79501. Plaintiffs—who elected not to submit an updated report for Dr. Gardoni at this stage of the case—respond that Rule 702 “does not require that an expert consider all relevant evidence,” but only that the expert’s testimony “be based on sufficient facts or data to make the testimony reliable.” Opp. 34, PageID.82995 (quoting *Rich v. City of Savannah*, No. 02-1222, 2005 WL 6739798,

at *3 (W.D. Tenn. Aug. 25, 2005)). They contend that Dr. Gardoni reviewed sufficient facts to ground his opinions, but they are wrong.

Plaintiffs do not deny that Dr. Gardoni's principal opinion is that VNA failed to "educate" the City and MDEQ about corrosion. Gardoni Rep. 8, ECF No. 1208-114, PageID.37169. They fail to explain how he could offer a reliable opinion about that aspect of VNA's conduct without (1) ascertaining what the City and MDEQ already knew and had done about lead and corrosion issues in Flint, and (2) ensuring that he had a complete understanding of VNA's communications with the City. And Dr. Gardoni admitted that he did not consider the City's or the MDEQ's understanding of corrosion issues at all. Ex. 3, Gardoni Dep. 771:12-14, ECF. No. 2460-4, PageID.796222. Nor did he review the materials necessary to discern what VNA actually said to the City. For example, he reviewed the deposition transcript of only one VNA employee—Marvin Gnagy—and opted not to read the deposition transcripts and related exhibits for VNA's other key employees. *Id.* at 44:18-45:10, PageID.79522-79523. He therefore failed to consider "sufficient facts or data to make the testimony reliable." *Rich*, 2005 WL 6739798, at *3.

Invoking this Court's remarks at the certification-stage *Daubert* hearing, Plaintiffs contend that Dr. Gardoni correctly focused solely on VNA's conduct because his task was to evaluate the conduct of the engineering firms. Opp. 31, Page ID.82992. But that does not excuse his failure to review all of the key evidence

relating to VNA's work. Moreover, to determine whether VNA met the standard of care in educating the City and MDEQ about the corrosion problem, Dr. Gardoni had to look at both sides of those relationships. His one-sided and abbreviated review was not reliable.

2. Dr. Gardoni's Methodology Is Unreliable Because He Bases The Standard of Care On Cherry-Picked Principles From Voluntary Codes Of Ethics

VNA explained that Dr. Gardoni's methodology is not reliable because (1) he erroneously treated nonbinding ethics codes published by two associations of professional engineers—the ASCE Code of Ethics and the NPSE Code of Ethics for Engineers—as defining the legal standard of care, and (2) he cherry-picked the provisions that supported his views, while ignoring provisions that undermine them. Plaintiffs' responses are unpersuasive. Gardoni Br. 17-25, PageID.79500-79508.

a. Plaintiffs contend that Dr. Gardoni's methodology was appropriate because the ethics codes "reflect a broad and longstanding consensus about the standard of care." Opp. 27-28, PageID.82988-82989. In fact, Dr. Gardoni actually claims that "professional engineering associations . . . help define the standard of care" by articulating particular values in their ethics codes. Gardoni Rep. 2, ECF No. 1208-114, PageID.37163. But the ASCE code expressly states that it does *not* define the legal standard of care. Ex. 2, 2020 ASCE Code n.1, ECF No. 2460-3, PageID.79518. Dr. Gardoni offers nothing but his say-so to suggest that either that

code or the NPSE code establishes a standard of care.⁴ So Dr. Gardoni's methodology of treating these voluntary codes as setting VNA's "professional responsibilities," Gardoni Rep. 11-12, ECF No. 1208-114, PageID.38172-38173, is not a reliable one.

Plaintiffs argue that one court has "affirmed the admission of testimony that applied one of the same engineering codes at issue here." Opp. 28, PageID.82989 (citing *Post Office v. Portec*, 913 F.2d 802, 807 (10th Cir. 1990)). But the court merely expressed approval of the admission "of the two professional codes themselves"—an issue that the defendant had not raised on appeal. *Post Office*, 913 F.2d at 807. It did not address the admissibility of expert testimony that the "defendant violated specific sections of the challenged codes," *id.*, instead finding waiver. And it did not hold that the codes established a legal standard of care. On the contrary, as Plaintiffs note in their brief, the court observed that the defendants could have requested an instruction "that the ethical codes themselves do not constitute the standard of care." Opp. 30, PageID.82991 (citing 913 F.2d at 807 n.1).

⁴ Plaintiffs assert that certain ethics principles are "set forth in the Model Rules promulgated by the National Council of Examiners for Engineering and Surveying [NCEES]." Opp. 27, PageID.82988. Dr. Gardoni did not rely on the Model Rules, so Plaintiffs may not cite them in support of his opinion. Plaintiffs also contend based on VNA employee Depin Chen's deposition testimony that "every licensed professional engineer . . . is tested on" those principles, but Chen testified that he could not recall whether the NCEES testing includes questions about ethics. Ex. 4, Chen Dep. 18:10-19, ECF No. 2508-5, PageID.83165.

Dr. Gardoni's testimony that they do set the standard of care is unreliable and should be excluded.

b. Plaintiffs contend that Dr. Gardoni cannot be criticized for "ignoring" certain parts of the ethics codes because his report mentions in passing the requirement in the ASCE and NSPE codes that engineers act as faithful agents to their clients. Opp. 36-37, PageID.82997-82998. But he nowhere considers that provision in forming his opinion that VNA was required to tell the public about the need for corrosion control and its concerns about lead. And his report fails even to mention the requirement that an engineer act only with knowledge of the facts. Dr. Gardoni's "[r]esult-driven analysis, or cherry-picking," renders his opinions unreliable. *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods. Liab. Litig. (No. II)*, 892 F.3d 624, 634 (4th Cir. 2018).

III. Dr. Weisel's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Weisel Is Not Qualified To Offer Opinions On The Causes Of Lead Release During The Flint Water Crisis

Dr. Weisel offers opinions on the mechanisms by which the City's allegedly inadequate corrosion control caused lead to release into Flint drinking water. But as VNA explained, those opinions are outside his area of expertise. Weisel Br. 7-10, PageID.77833-77836. Dr. Weisel admits that he has no expertise in the use of corrosion inhibitors for water treatment or the effects of corrosion on pipe scale. *Id.*;

see, e.g., Ex. 4, 2020 Weisel Dep. 41:19-42:19, ECF No. 2455-5, PageID.77968-77969; *id.* at 43:22-44:1, PageID.77970-77971 (“Q. So you would not consider yourself to be an expert in the field of the process by which corrosion occurs in pipes, right? A. Yeah.”); *id.* at 58:2-6, PageID.77974 (“Q. You don’t consider yourself to be an expert in the treatment of water at water treatment plants for corrosion or corrosivity purposes; is that right? A. That’s correct.”); *id.* at 87:3-4, PageID.77980 (“I’m not one that has an expertise in . . . water treatment plants.”).

Plaintiffs respond that Dr. Weisel is a qualified expert in exposure science, Opp. 55-58, PageID.83016-83019, but that misses the point: VNA never disputed Dr. Weisel’s expertise in exposure science. Rather, VNA argued that Dr. Weisel is not qualified to offer opinions on corrosion, lead release, and water treatment that he admits are outside his expertise. *See Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 673 (6th Cir. 2010) (witness with expertise diagnosing disease was not qualified to offer opinions on its etiology); *Everlight Elecs. Co.*, 2014 WL 4707053, at *9 (expert must have “special” expertise “concerning the particular issue before the court”). Although Plaintiffs assert that VNA has conflated exposure science with toxicology, Opp. 55, PageID.83016, the supposed difference is irrelevant. Plaintiffs themselves define Dr. Weisel’s expertise as the study of “how people and communities *come into contact* with harmful chemicals through environmental media,” *id.* at 56, PageID.83017 (emphasis added), but his expertise on how people come into contact

with chemicals like lead in the environment does not extend to his opinions on how lead was released into Flint water to begin with.

Plaintiffs argue that Dr. Weisel should be allowed to offer opinions on corrosion control and lead release that are outside his expertise because those opinions purportedly are consistent with evidence in the record, testimony of other witnesses, and scientific literature. Opp. 62, PageID.83023. But Plaintiffs do not identify any case law allowing Dr. Weisel to offer expert opinions that he himself has admitted are outside his expertise. Courts refuse to allow experts to testify to opinions that they are not qualified to offer, regardless of whether the opinions are “consistent” with the facts and evidence. *Tamraz*, 620 F.3d at 675 (“[T]o the extent that [another witness’s] testimony was consistent with parts of [the expert’s], that would not make [the expert’s] testimony admissible,” because under *Daubert*, “[t]he important thing is not that experts reach the right conclusion, but that they reach it via a sound methodology.”). Because Dr. Weisel is not qualified to offer the specific opinions that he has disclosed, the Court should exclude those opinions. *See* Fed. R. Evid. 702.⁵

⁵ Plaintiffs specifically argue that Dr. Weisel’s opinions are appropriately based on the opinions of EPA employee Michael Schock, *see* Opp. 60-61 & n.13, PageID.83021-83022, but Dr. Weisel’s reliance on Shock’s opinions is not appropriate given that Plaintiffs failed to identify Schock as a non-retained expert by their expert disclosure deadline.

B. Dr. Weisel's Opinions Are Unreliable

1. As VNA explained, Dr. Weisel's opinion that Flint homes built before 1986 have lead in their plumbing is unreliable and should be excluded. Weisel Br. 12-13, PageID.77838-77839. He bases that opinion entirely on the fact that Congress prohibited certain uses of lead in plumbing in 1986, but it does not follow that all pre-1986 homes actually had the sort of plumbing that contained small amounts of lead in fixtures or solder. *Id.* And some pre-1986 homes that once had such plumbing had that plumbing removed and replaced before the water switch.

Although Plaintiffs assert that there is "unrefuted evidence" that Flint's homes contained lead, the "unrefuted evidence" they cite is evidence "that more than 99% of Flint's homes were built before 1986," Opp. 63 & n.17, PageID.83024; they do not show that Dr. Weisel relied on evidence that pre-1986 homes in Flint had any lead in their plumbing.⁶

2. VNA also explained that Dr. Weisel's opinion that all buildings with lead plumbing had elevated levels of lead in their tap water during the Flint water crisis is unreliable and should be excluded. Weisel Br. 14-18, PageID.77840-77844. Dr. Weisel does not support his opinion with any facts or data. He also ignores the evidence that (1) the facts and data show that many homes in Flint did not have

⁶ Plaintiffs cite a few reports stating that pre-1986 plumbing commonly contained lead, *see* Opp. 64 n.18, PageID.83025; even if those reports were a reliable basis for assessing the existence of lead in Flint homes, Dr. Weisel's report never cited them.

elevated levels of lead in their tap water, and (2) most Flint homes did not have lead service lines and thus were unlikely to have had elevated water lead levels. *Id.*

Plaintiffs insist that Dr. Weisel did rely on sufficient facts and data, but the facts and data cited by Plaintiffs do not support Dr. Weisel’s opinion that all Flint homes had *elevated* lead levels. Plaintiffs assert that Dr. Weisel “relied upon the testing performed by Virginia Tech in August/September 2015, which confirmed that every sampled home within the City of Flint had *detectible* levels of lead in the water.” Opp. 65, PageID.83026 (emphases altered). Even if that were true, the existence of “*detectible*” levels of lead in Flint homes in 2015 does not mean that the lead levels were *elevated*. Based on the Virginia Tech team’s published results of the lead sampling in August/September 2015, only 17% of the results were above the EPA action level of 15 ppb, and 15% of the results were below the minimum reporting level of 1 ppb. Pieper *et al.*, *Evaluating Water Lead Levels During The Flint Water Crisis*, ECF No. 1712-2, PageID.62380. That evidence shows that many Flint homes had very low levels of lead in 2015. It does not show that the lead levels at those homes were any higher than they were before the Flint water crisis.⁷

⁷ Plaintiffs dispute the opinion of VNA’s expert Dr. Brent Finley about the level of detection for the Virginia Tech sampling method: Plaintiffs maintain that the lowest detectable level was 0.1 ppb rather than 1 ppb. Opp. 67, PageID.83028. Even if Plaintiffs are right, it remains the case that the lead levels in many samples were *de minimis* and, in fact, below the minimum reporting level of 1 ppb. (The minimum reporting level is the smallest amount of lead that can be reliably measured.)

C. Dr. Weisel’s Opinions Are More Prejudicial Than Probative

Dr. Weisel’s opinions on class members’ exposure to lead in Flint should be excluded under Rule 403 because they are far more prejudicial than probative. They have minimal probative value because the Court did not certify any issue related to class members’ exposure to lead, and because the opinions have little bearing on the certified issue of whether the water was capable of causing harm—Dr. Weisel does not opine that the water lead levels were harmful and, in fact, has no opinions on how high the lead levels were. Weisel Br. 18-20, PageID.77844-77846. Further, his opinions would prejudice VNA because they may suggest that class members were exposed to harmful lead levels (even though he does not offer that opinion), and VNA would have to spend trial time explaining to the jury why that is wrong. *Id.* at 20, PageID.77846.

Plaintiffs have no real response. They concede that Dr. Weisel neither quantifies the purported elevated levels of lead in Flint nor offers any probative opinion on whether Flint water was capable of causing Plaintiffs’ claimed harms. *See* Opp. 68-69, PageID.83029-83030. Although Plaintiffs contend that Dr. Weisel’s opinions are nonetheless relevant to the issue-class trial, they do so by arguing that “[w]hether and to what degree Class Plaintiffs were exposed to increased concentrations of lead is one of the central questions of this case.” *Id.* at 68, PageID.83029. That is *not* one of the issues the Court certified for class trial.

The Court specifically declined to certify any issue as to class members' exposure to lead. *See, e.g.*, Class Cert. Order 107 n.31, ECF No. 1957, PageID.68115 ("each class member . . . would need to submit proofs regarding their water exposure").

Plaintiffs do little else to deny that Dr. Weisel's opinions would be prejudicial to VNA and a waste of time. In fact, they indicate that his opinions would duplicate unnecessarily their other experts' testimony. *See, e.g.*, Opp. 53, 64, PageID.83014, 83025 (noting overlap with Dr. Russell's testimony). That Dr. Weisel's opinions are unnecessarily duplicative is itself a basis for excluding them under Rule 403. *See United States v. Lewis*, 837 F.2d 415, 418 (9th Cir. 1988) (trial court did not err in excluding duplicative expert testimony under Rule 403).

IV. Dr. Georgopoulos's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Georgopoulos's Opinion That Class Members Would Have Had Increased Blood Lead Levels Is Not Reliable

1. Dr. Georgopoulos's Opinion Is Not Based On Any Facts Or Data Specific To This Case

Plaintiffs purport to use Dr. Georgopoulos's modeling to establish class members' levels of lead exposure. They attempt to show that every class member who consumed unfiltered tap water over 90 days would have had the increased blood lead levels set forth in Table 1 of Dr. Georgopoulos's modeling results. Ex. 2,

Georgopoulos Decl. 21-22, ECF No. 2483-3, PageID.82268-82269.⁸ Dr. Georgopoulos's opinions that are based on his modeling lack a reliable foundation because they are based on hypothetical exposure scenarios and assumptions, not facts or data specific to this case. Georgopoulos Br. 6-9, PageID.82220-82223.

Plaintiffs suggest that because the issue Dr. Georgopoulos seeks to address relates to general causation, not specific causation, Dr. Georgopoulos is not required to ground his opinions in facts and data specific to this case. Opp. 80-84, PageID.83041-83045. In fact, establishing general causation requires "identifying the asserted exposure level of the toxin" and "not simply proof of exposure to the substance, but proof of enough exposure to cause the plaintiff's specific illness." *Lowery v. Enbridge Energy Ltd. P'ship*, 500 Mich. 1034, 1043 (2017) (Markman, J., concurring) (quoting *McClain v. Metabolife Int'l, Inc.*, 401 F.3d 1233, 1242 (11th Cir. 2005)); see *Powell-Murphy v. Revitalizing Auto Cmtys. Env't Response Tr.*, 333 Mich. App. 234, 249 (2020) (adopting the causation framework described in Justice Markman's *Lowery* concurrence).

⁸ Dr. Georgopoulos's opinions apply only to the subset of the class of people who consumed unfiltered tap water over a period of at least 90 days between February 10, 2015 and October 16, 2015. Georgopoulos Decl. 8-9, ECF No. 2483-3, PageID.82255-82256. Class members who do not meet that criterion, including the class representatives, are not covered by Dr. Georgopoulos's opinions. See Georgopoulos Br. 16, PageID.82230.

In his declaration, Dr. Georgopoulos states that the modeled blood lead levels “would have occurred” at the modeled incremental increases in water lead concentration for hypothetical subjects. Georgopoulos Decl. 21, ECF No. 2483-3, PageID.82268. In their brief, however, Plaintiffs admit that Dr. Georgopoulos’s modeling may not match any individual in the Flint population. Opp. 81, PageID.83042. They had to do so, because Dr. Georgopoulos testified that it would be “inappropriate” to assume that his modeled blood lead levels will apply to specific individuals. Ex. 5, 2022 Georgopoulos Dep. 69:11-13, ECF No. 2483-6, PageID.82504. Contrary to Plaintiffs’ characterization, the problem is not that Dr. Georgopoulos failed to address “the *specific causation question* of whether the water conditions harmed a specific class representative.” Opp. 80, PageID.83041 (emphasis is Plaintiffs’). It is that he did not model exposure scenarios for *anyone* in Flint. The modeled blood lead levels cannot be extrapolated to any class member because Dr. Georgopoulos has no basis to opine—and does not opine—that anyone in Flint had the blood lead levels that he modeled.

In *Palmer v. Asarco Inc.*, No. 03-cv-0498, 2007 WL 2298422 (N.D. Okla. Aug. 6, 2007), the court excluded biokinetic modeling for precisely this reason. *See* Georgopoulos Br. 9-10, PageID.82223-82224. Plaintiffs insist that the expert in *Palmer* was addressing only specific causation. Opp. 82, PageID.83043. In fact, the expert in *Palmer* addressed both general and specific causation. 2007 WL

2298422, at *1-*2. The purpose of the expert’s blood lead modeling was to establish lead exposure levels. *Id.* at *9-*10. That is the same purpose for which Plaintiff seek to use Dr. Georgopoulos’s modeling here.⁹

Plaintiffs have no support for their assertion that they can establish general causation through use of a hypothetical model that is not grounded in the facts of the case. Opp. 81, PageID.83042. Rule 702(d) permits expert testimony only if the expert witness “reliably applied the principles and methods to the facts of the case.” Fed. R. Evid. 702(d). As Plaintiffs recognize, the AALM model “can provide an accurate prediction of dose-blood lead relationships *when actual doses are known*.” Opp. 70, PageID.83031 (emphasis added). Because Dr. Georgopoulos’s modeling does not rest on reliable data about actual doses and conditions in Flint, his opinions based on that modeling are unreliable—despite being limited to general causation.

2. Dr. Georgopoulos Uses Assumptions In His Modeling That Are Contradicted By The Evidence

Dr. Georgopoulos’s modeling is based on assumptions that are contradicted by the evidence. Georgopoulos Br. 11-19, PageID.82225-82233. Plaintiffs argue that VNA has raised “a mere disagreement between experts” over the selection of

⁹ Plaintiffs also seek to distinguish *Palmer* on the basis that blood lead data were available so there was no need to model blood lead levels. Opp. 82 n.34, PageID.83043. That purported distinction fails because there are publicly available studies on blood lead levels measured in Flint adults during and after the water switch. Georgopoulos Br. 20-21, PageID.82234-82235.

data inputs to the modeling that does not warrant exclusion of Dr. Georgopoulos's testimony. Opp. 74, PageID.83035. But "a significant error" in an expert's understanding of the facts can go to "the admissibility, as opposed to the weight, of the evidence." *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 530 (6th Cir. 2008). The Sixth Circuit instructs that expert testimony is inadmissible "when the facts upon which the expert bases his testimony contradict the evidence." *Greenwell v. Boatwright*, 184 F.3d 492, 497 (6th Cir. 1999). That is the case here.

Citing cases from other circuits, Plaintiffs contend that "the selection of data inputs to employ in a model is a question separate from the reliability of the methodology reflected in the model itself." Opp. 74, PageID.83035 (internal quotation marks omitted). But that does not mean that experts are unrestricted in their selection of assumptions and data inputs. The cases that Plaintiffs cite caution that an expert may not "rely on data that has no quantitative or qualitative connection to the methodology employed" and that there instead must be "a rational connection between the data and the opinion." *Manpower, Inc. v. Ins. Co. of Pa.*, 732 F.3d 796, 808-09 (7th Cir. 2013). They explain that an expert must have sufficient factual basis for the opinion, *see Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 766 (7th Cir. 2013), and that "courts may evaluate the data offered to support an expert's bottom-line opinions to determine if that data provides adequate support to mark the expert's

testimony as reliable.” *Lawes v. CSA Architects & Eng’rs LLP*, 963 F.3d 72, 99 (1st Cir. 2020) (quotation omitted).

Here, three sets of assumptions that Dr. Georgopoulos uses in his modeling are contradicted by the evidence and are unreliable: assumptions about water lead levels, assumptions about water ingestion rates, and assumptions about baseline lead exposures. Georgopoulos Br. 12-19, PageID.82226-82233. Taken together, the significant errors in each of these assumptions render Dr. Georgopoulos’s modeling unreliable. Indeed, “*any* step that renders the analysis unreliable . . . renders the expert’s testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology.” Fed. R. Evid. 702 adv. comm. note (2000 amend.) (citing *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994)); *In re Scrap Metal*, 527 F.3d at 530.¹⁰

Attempting to minimize the impact of errors in the assumptions in Dr. Georgopoulos’s modeling, Plaintiffs argue that, even when the inputs are adjusted, the model continues to show that increases in water lead levels will yield increases in blood lead levels. Opp. 75, 76, 78, 80, PageID.83036, 83037, 83039, 83041. This argument ignores how Plaintiffs use the modeled blood lead levels. Dr. Hu relies on

¹⁰ Plaintiffs do not dispute that Dr. Georgopoulos does not rely on water lead data from recreational facilities, workplaces, restaurants, or schools. Therefore, his opinion about the effects on blood lead levels of exposure to lead in water at recreational facilities, workplaces, restaurants, and schools is not based on a reliable foundation and is not admissible.

the increased blood lead levels identified in Dr. Georgopoulos's Table 1 as a basis for his opinions that particular incremental increases in blood lead levels are capable of causing the claimed injuries. Opp. 4, PageID.82965; ECF No. 2461-3, PageID.79860-79862, 79865-79867. If the blood lead levels that Dr. Georgopoulos calculated are the result of errors in the modeling, then incremental increases that the model will attribute to increased water lead levels will not be accurate. In addition, the relative contribution of water lead to the increase in blood lead will not be accurate.¹¹

Because of the errors in the assumptions employed by Dr. Georgopoulos in the modeling, both his opinions and Dr. Hu's opinions in reliance on Dr. Georgopoulos's modeling are unreliable.

3. Dr. Georgopoulos Selectively Compares His Modeled Blood Lead Levels To Data On Measured Blood Lead Levels In Flint

Dr. Georgopoulos seeks to rely on his modeling to show that blood lead levels in Flint adults were elevated in 2015 due to increased lead in tap water. However, studies on measured blood lead levels in Flint do not support his hypothesis. Dr.

¹¹ Plaintiffs state that Dr. Georgopoulos's Table 1 presents "predictions of the levels of lead in blood that are attributable to water ingestion at each water lead level." Opp. 71, PageID.83032. Table 1 presents modeled estimates of *total* blood lead levels associated with increases in water lead concentration, not the incremental increase in blood lead levels attributable to ingestion of lead in water. Georgopoulos Decl. 21, ECF No. 2483-3, PageID.82268.

Georgopoulos cannot point to a single study showing that blood lead levels in Flint adults in 2015 were significantly elevated relative to pre-water-switch blood lead levels. Ex. 3, 2023 Georgopoulos Dep. 122:3-11, ECF No. 2483-4, PageID.82440. Instead, the available studies reporting blood lead levels in Flint adults found no statistically significant increase in blood lead levels in 2015. Georgopoulos Br. 20-21, PageID.82234-82235.

Even though the class includes only adults and Dr. Georgopoulos modeled blood lead levels for adults, Dr. Georgopoulos did not refer to the studies on blood lead data in Flint adults when he prepared his modeling. Georgopoulos Br. 20, PageID.82234. Instead, he referred to studies on blood lead data in Flint children. *Id.* Plaintiffs contend that he did so only to demonstrate that his selection of model inputs was appropriate, not to validate his modeled blood lead levels. Opp. 84, PageID.83045. This argument fails for two reasons.

First, Dr. Georgopoulos testified in his deposition that he referred to the Kennedy and Zahran studies on blood lead levels in Flint children “to make sure that whatever I was doing was within the range or realm of reality.” Ex. 5, 2022 Georgopoulos Dep. 159:7-12, ECF No. 2483-6, PageID.82549. That is, Dr. Georgopoulos did compare his modeled blood lead levels to the data in those studies.

Second, more importantly, as explained in VNA’s opening brief, the Kennedy and Zahran studies do not show that Dr. Georgopoulos’s modeling is appropriate

and do not support Dr. Georgopoulos’s opinion. Georgopoulos Br. 20, PageID.82234. Neither study found that after mid-February 2015—the period relevant to the VNA class—blood lead levels in Flint children were elevated compared to pre-water-switch levels. *Id.* This is consistent with studies on blood lead levels measured in Flint adults, which also found no statistically significant increase in blood lead levels in 2015. *Id.*

Dr. Georgopoulos’s efforts to distinguish studies on actual measured blood lead levels in Flint reveal that his methodology is not reliable. He dismisses certain studies—and the conclusions that he does not like—but accepts other studies that have the same ostensible flaws. This “selective use of facts fails to satisfy the scientific method and *Daubert*.” *Barber v. United Airlines, Inc.*, 17 F. App’x 433, 437 (7th Cir. 2001); *see also* Georgopoulos Br. 22-23, PageID.82236-82237 (collecting cases).

B. Dr. Georgopoulos’s Opinion That “Even Low” Increases In Water Lead Levels Would Result In Quantifiable Increases In Blood Lead Levels Is Not Reliable

Dr. Georgopoulos opines that “even low increases in water lead levels would result in quantifiable increases in blood lead levels across age groups.” Georgopoulos Decl. 9, ECF No. 2483-3, PageID.82256. VNA argues that his opinion is unreliable because many of the estimated increases in blood lead levels are so small that they are not measurable by a blood test—and therefore *cannot* be

quantified. Georgopoulos Br. 22-23, PageID.82237-82238. Plaintiffs respond that Dr. Georgopoulos's modeling is reliable because his modeling calculations can be replicated, Opp. 86-87, PageID.83047-83048, but this misses the point. Even if the modeling can be replicated, the modeled increases in blood lead levels are not quantifiable—and hence are unreliable—because they cannot be measured in the real world.

At best, Dr. Georgopoulos's modeling shows that certain increases in water lead cause negligible increases in blood lead levels that cannot be detected by laboratory instruments. In fact, blood lead measurements in Flint in 2015 do not show statistically significant increases in blood lead levels. Georgopoulos Br. 20-21, PageID.82234-82235. So Dr. Georgopoulos's opinion that "even low" increases in water lead levels would result in quantifiable increases in blood lead levels is not only unreliable on its face—it is also contrary to the available evidence.

V. Dr. Hu's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Hu's Opinions About Immunological Effects, Cardiovascular Mortality, And Reproductive Effects Should Be Excluded

VNA moved to exclude Dr. Hu's opinions about three adverse effects because there is insufficient evidence that Flint water could cause those conditions. Hu Br. 7-12, PageID.79828-79834. Plaintiffs fail to demonstrate otherwise.

Immunological Effects. Plaintiffs state that they “no longer intend to present testimony at trial that elevated levels of blood [lead] will more likely than not cause adverse immunological health effects.” Opp. 89 n.36, PageID.83050. The Court therefore should exclude Dr. Hu’s opinions and testimony concerning these effects.

Increased Cardiovascular Mortality. VNA explained that Dr. Hu failed to state that there was sufficient evidence to support a causal relationship between lead and cardiovascular mortality. Hu Br. 9, PageID.79830. Plaintiffs argue that, when read as a whole, Dr. Hu’s report can be construed as supporting a causal relationship even if he did not actually say that. Opp. 90, PageID.83051. They are wrong.

Plaintiffs’ argument is based on Dr. Hu’s discussion of two separate causal relationships: the relationship between lead exposure and elevated blood pressure, and the relationship between elevated blood pressure and adverse cardiovascular outcomes. Opp. 90, PageID.83051. Dr. Hu states that low-level lead exposure can cause “clinically-significant elevations in blood pressure,” which in turn are “well-known to pose elevated risks of adverse cardiovascular outcomes (i.e., myocardial infarction, stroke).” Hu Rep. ¶ 18, ECF No. 2461-3, PageID.79867. But he does not state that there is a causal relationship between low-level lead exposure and the adverse cardiovascular outcomes he identifies (i.e., myocardial infarction, stroke). And that conclusion does not necessarily follow, because the elevations in blood pressure associated with low-level lead exposure may be too small to have a

measurable effect on the risk of adverse cardiovascular events.¹² Absent evidence directly connecting low-level lead exposure to an increased risk of cardiovascular mortality, or expert testimony bridging the gap between these two separate causal relationships, the purported relationship between lead exposure and increased cardiovascular mortality involves “too great an analytical gap” to be admissible. *Joiner*, 522 U.S. at 146.

Given Dr. Hu’s failure to expressly state that there is more likely than not a causal relationship between low-level lead exposure and increased cardiovascular mortality, or describe a methodology for reaching that conclusion, the Court should exclude Dr. Hu’s testimony about cardiovascular mortality.

Reproductive Effects. Dr. Hu’s report includes a single passing reference to the relationship between lead and reproductive harms within a sentence summarizing lead’s effect on different organ systems. Hu Rep. ¶ 12, ECF No. 2461-3, PageID.79860. Dr. Hu did not discuss the nature of the relationship or identify the specific reproductive effects he had in mind, and he testified at his deposition that he “had not reviewed th[e] literature” related to reproductive effects in connection

¹² Although Dr. Hu does not cite any studies establishing a relationship between low-level lead exposure and cardiovascular mortality, the studies he cites as evidence of the relationship between lead and increased blood pressure cast doubt on whether low-level lead exposure can cause an increased risk of cardiovascular mortality. See ATSDR, *Toxicological Profile for Lead* 69 (2020) (concluding that studies evaluating the risk of cardiovascular mortality associated with blood lead levels below 10 ug/dL “provide mixed results”).

with this case. Hu Br. 11, PageID.79832. VNA therefore explained that Dr. Hu should not be permitted to testify about the relationship between lead and any reproductive effects because (1) any opinions on this subject were not adequately disclosed, (2) an opinion that lead can cause unspecified reproductive effects would not be helpful to the jury, and (3) Dr. Hu failed to identify sufficient evidence to establish a causal relationship. *Id.* at 10-13, Page ID.79831-79834.

In response, Plaintiffs attempt to supplement Dr. Hu's report by patching together different bits of Dr. Hu's declaration, his rebuttal report, and Plaintiff's own interpretation of the *Toxicological Profile*, which is the one study Dr. Hu referenced in connection with his conclusory statement. Opp. 92-93, PageID.83053-83054. They state on Dr. Hu's behalf, for example, that the *Toxicological Profile* notes that lead exposure might cause "damage to sperm and hormones and decreased fertility" in males and that there is some evidence of "decreased fertility, increased spontaneous abortion, increased preterm birth, and earlier age at onset of menopause" among females. *Id.* (citing *Toxicological Profile* at 7 (2020)). But this discussion reflects the views of Plaintiffs' counsel, not those of Dr. Hu. There is nothing in either Dr. Hu's report or his deposition testimony to suggest that he believes that the evidence of these various effects is sufficient to establish causation; nor is there any evidence suggesting that he believes that exposure to the low levels of lead at issue here were sufficient to cause these effects.

B. Dr. Hu’s Opinions About *In Utero* Exposures Should Be Excluded

VNA moved to exclude Dr. Hu’s testimony about the adverse effects associated with unborn children’s exposure to lead while *in utero* because children that were exposed to lead while *in utero* are not part of the class. Hu Br. 13-14, PageID.79834-79835. Plaintiffs have two responses, neither of which makes sense.

First, Plaintiffs argue that VNA’s motion should be brought closer to trial as a motion *in limine* because it “seeks to exclude the opinion . . . on relevance—not *Daubert*—grounds.” Opp. 94, PageID.83055. But as the Supreme Court explained in *Daubert* itself, courts should consider both reliability and relevance when evaluating whether expert testimony is admissible. 509 U.S. at 591 (“Rule 702 further requires that the evidence or testimony ‘assist the trier of fact to understand the evidence or to determine a fact in issue.’ This condition goes primarily to relevance.”). Plaintiffs offer no explanation or authority to support their view that relevance issues should be deferred and raised in a motion *in limine*.

Second, Plaintiffs argue that testimony about possible *in utero* effects is relevant to class members’ claims of “emotional trauma and negative mental health outcomes.” Opp. 94, PageID.83055. If a parent experienced emotional distress because of concerns that a child may have been harmed by exposure to lead-contaminated water while *in utero*, that distress would not qualify as a legally cognizable injury under Michigan law. Damages for “mental anguish” and

“emotional distress” are permitted when they contribute to or follow from a plaintiff’s own physical injuries, not the physical injuries of others. *McClain v. Univ. of Mich. Bd. of Regents*, 256 Mich. App. 492, 497-99 (2003), *superseded by statute on other grounds as noted in Simpson v. Pickens Jr., & Assocs., MD, PC*, 311 Mich. App. 127, 135 n.6 (2015). Michigan law does not recognize a claim for mental anguish or emotional distress attributable solely to injuries suffered by third parties. Therefore, testimony about lead’s potential effects on individuals who are not part of the class, including class members’ children, is not relevant.

C. Dr. Hu’s Opinions That Flint Water Was Capable Of Causing The Injuries Identified In His Report Are Unreliable

VNA moved to preclude Dr. Hu from testifying that exposure to Flint water was capable of causing the various adverse effects described in his report because Dr. Hu’s opinions were not based on a reliable assessment of class members’ exposures and because those opinions were based on an unreliable “no threshold” theory. Hu Br. 15-21, PageID.79836-79841. Plaintiffs’ responses to both of these arguments lack merit.

Exposure Assessment. Plaintiffs do not dispute that under Michigan law a reliable exposure assessment is a “necessary” part of any general-causation opinion in a toxic-tort case. *Powell-Murphy*, 333 Mich. App. at 252. Dr. Hu’s opinions are not based on any such assessment; nor are they “tailored to the estimated amount and duration of exposure at issue.” *Id.*

Plaintiffs assert that VNA's arguments are merely "competing interpretations of water lead levels and blood lead levels" and "a challenge to the underlying exposure assessment work of other experts." Opp. 95-96, PageID. 83056-83057. They are not. VNA's arguments focus on the manner in which Dr. Hu used available lead data (including Dr. Georgopoulos's model) to assess class members' exposures, whether and how Dr. Hu estimated the range of likely or possible exposures, and the manner in which Dr. Hu ultimately concluded that the water in Flint was capable of causing the specific injuries described in his report. *See* Hu Br. 17, PageID.79838. In other words, VNA's motion focused on the methodology Dr. Hu employed (or failed to employ) in both performing the necessary exposure assessment and tailoring his general-causation opinions to that assessment. Plaintiffs' response to VNA's arguments related to the reliability of the underlying lead-exposure data and modeling (in particular, Plaintiffs' response to VNA's motion to exclude opinions of Dr. Georgopoulos) does not address VNA's arguments about how Dr. Hu used the underlying data and modeling to form the opinions in his report.

Exposure Threshold. Plaintiffs note that "throughout Dr. Hu's reports are specifications of specific blood lead levels for which adverse health effects are identified." Opp. 98, PageID.83059. It is not clear how this supports Plaintiffs' position. At a minimum, Dr. Hu's identification of specific blood lead levels for which there are adverse effects casts doubt on his "no threshold" exposure theory.

Hu Br. 23, PageID.79844. If Plaintiffs are contending that Dr. Hu did recognize exposure thresholds, his general-causation opinions should still be excluded because they are not based on any evidence that class members were exposed to levels of lead in Flint’s water in excess of those thresholds.

Plaintiffs also say that this Court “has already rejected the argument presented by VNA in an earlier bellwether case.” Opp. 99, PageID.83060. Plaintiffs are mistaken. The Court previously held that there is no “blanket prohibition” or “general rule” preventing experts from testifying that a toxin can cause harms at any level of exposure. *In re Flint Water*, No. 17-10164, 2021 WL 5631706, at *3 (E.D. Mich. Dec. 01, 2021). VNA is not moving to exclude Dr. Hu’s testimony because his “no threshold” theory violates a general rule or blanket prohibition, but because, as applied to the specific adverse effects Dr. Hu identifies, his “no threshold” theory is scientifically unreliable. Hu Br. 21-22, PageID.79842-79844. Such arguments, this Court recognized, are appropriate grounds for challenging “no threshold” theories like the one at issue here. *In re Flint Water*, 2021 WL 5631706, at *5-6.

VI. Dr. Michaels’s Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Michaels’s Opinion That Corrosive Water Was Capable Of Causing Skin Rashes Should Be Excluded

Dr. Michaels’s principal opinion is that Flint water during the crisis was capable of causing skin rashes. Michaels Rep. 6, ECF No. 2456-3, PageID.78228.

He came to that opinion by trying to apply the Bradford Hill criteria to a 2016 report by a group of local, state, and federal health and environmental agencies that concluded that it was not possible to conclude that Flint River water caused skin rashes (the UCG report). *Id.* That opinion suffers multiple flaws.

1. Dr. Michaels's Opinion Is Unreliable Because He Incorrectly Applies The Bradford Hill Criteria And Misconstrues The UCG Report

As VNA explained, Dr. Michaels did not employ a reliable methodology. First, he did not use the Bradford Hill criteria correctly. Michaels Br. 8-10, PageID.78196-78198. Second, he badly misconstrued the UCG report. *Id.* at 10-13, PageID.78198-781201.

Incorrect use of the Bradford Hill criteria. VNA explained that the Bradford Hill criteria are intended to be used only after an association has been demonstrated between the agent and the disease, and that Dr. Michaels has not demonstrated that association here. Michaels Br. 8-9, PageID.78196-78197. In response, Plaintiffs argue that a statistically significant association need not be shown before applying the Bradford Hill criteria. Opp. 104-05, PageID.83065-83066. They rely solely on a footnote in *In re Tylenol (Acetaminophen) Mktg., Sales Practices & Prod. Liab. Litig.*, No. 13-md-02436, 2016 WL 4039286, at *7 n.19 (E.D. Pa. July 28, 2016). But the *Tylenol* case relied on *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods. Liab. Litig.*, 174 F. Supp. 3d 911 (D.S.C. 2016), which, in a part

of the opinion not quoted by the *Tylenol* court, states: “[I]t is well established that the Bradford Hill method used by epidemiologists *does* require that an association be established through studies with statistically significant results.” *Id.* at 924 (emphasis in original) (collecting cases).

As VNA explained (Michaels Br. 8, PageID.78196), the Fourth Circuit agreed with the district court in *Lipitor*, stating:

The Reference Manual on Scientific Evidence stresses that it is proper to employ the Bradford Hill criteria ‘only *after* a study finds an association to determine whether that association reflects a true causal relationship.’ In fact, the *Manual* highlights cases in which ‘experts attempted to use these guidelines to support the existence of causation in the absence of any epidemiologic studies finding an association,’ but observes that while ‘[t]here may be some logic to that effort . . . it does not reflect accepted epidemiologic methodology.’

In re Lipitor (Atorvastatin Calcium) Mktg., Sales Practices & Prods. Liab. Litig., 892 F.3d 624, 640 (4th Cir. 2018) (emphasis in original). In particular, the Fourth Circuit affirmed the district court’s holding that in the “specific context” of “applying the Bradford Hill criteria to a set of data” the expert must “find a statistically significant association at step one before moving on to apply the factors at step two.” *Id.* at 642.¹³

¹³ VNA also cited (Michaels Br. 8, PageID.78196) *In re Fosamax Prods. Liab. Litig.*, 645 F. Supp. 2d 164 (S.D.N.Y. 2009), which stated that the Bradford Hill factors should not be applied “without data from controlled studies showing an association.” *Id.* at 188. Plaintiffs attempt to distinguish *Fosamax* by pointing to the court’s statement that “[t]he record here is inconclusive on this point.” Opp. 106, PageID.83067 (quoting *Fosamax*, 645 F. Supp. 2d at 188). But that statement

Plaintiffs assert that this case involves a different context from *Lipitor* because it involves a “complex mixture of water contaminants,” Opp. 105-06, PageID.83066-83067, but at bottom Dr. Michaels is doing the same thing as the expert in *Lipitor*: applying the Bradford Hill criteria to data. The purported complexity of this case is not a reason for him to misapply the Bradford Hill factors.

Plaintiffs also argue that Dr. Michaels demonstrated that epidemiologic studies show a sufficient association between corrosive water and skin rashes. They are wrong. First, Plaintiffs cite Dr. Michaels’s conclusory discussion of plausibility, coherence, and experimental evidence, three of the Bradford Hill criteria. Opp. 106, PageID.83067. Second, Plaintiffs cite Dr. Michaels’s quotation of two general textbooks. *Id.* at 107, PageID.83068. Finally, they cite the statement in the UCG Report that “[t]here is some evidence from the scientific literature of an association with skin and eye irritation and [pH, hardness, alkalinity, and chlorine].” *Id.*¹⁴ None

referred to whether the expert had the necessary data showing an association, not whether such data were required. Plaintiffs also point to the court’s statement that “an expert on medical causation need not always base his opinion on epidemiological studies.” *Id.* (quoting *Fosamax*, 645 F. Supp. 2d at 176). That statement refers to experts who did not use the Bradford Hill methodology and therefore is irrelevant here. *See Soldo v. Sandoz Pharms. Corp.*, 244 F. Supp. 2d 434, 569 (W.D. Pa. 2003) (“[A]n epidemiologic foundation is a prerequisite for application of [the Bradford Hill] criteria. . . . [B]ecause plaintiff’s experts have not demonstrated any statistically-significant epidemiologic study showing an increased risk of [injury], application of the Bradford-Hill criteria is unwarranted.”).

¹⁴ The UCG Report specifically noted that “studies of the association between tap water quality and skin irritation are generally lacking.” Ex. 4, UCG Rep. 15, ECF

of these is an epidemiologic study about dermal exposure to the specific elements of corrosive water that are the subject of Dr. Michaels's opinion. And Dr. Michaels simply offers these references—he does not analyze or evaluate them in any way, let alone demonstrate that they show a statistically significant association between skin rashes and chlorine, water hardness, pH, and metals in water.

VNA also explained that the Bradford Hill criteria are meant to be applied to an entire body of scientific evidence, not to a single report that was not peer-reviewed. Michaels Br. 9-10, PageID.78197-78198. Plaintiffs do not dispute that point. Instead, they contend that Dr. Michaels *did* apply the criteria in this way, referring to the 54 sources in Dr. Michaels's list of literature cited. Opp. 108, PageID.83069. But many of the items on that list, such as litigation expert reports, articles on other topics authored by Dr. Michaels, and deposition testimony, are not at all related to an epidemiologic relationship between skin rashes and chlorine, pH, water hardness, or metals. Michaels Rep. 33-39, ECF No. 2456-3, PageID.78255-78261. Moreover, Dr. Michaels does not scientifically evaluate most of these sources. At best, he gives them a cursory citation without explanation or discussion. That is inadequate.

No. 2456-5, PageID.78351. Dr. Michaels does not provide epidemiologic studies to fill that gap.

Dr. Michaels admits that the UCG Report was the “primary source” he used for his Bradford Hill analysis. Ex. 7, Michaels Rebuttal 3-4, ECF No. 2456-8, PageID.786078608-78609. According to Dr. Michaels, the UCG Report was “the only study that I found of skin rashes among Flint residents,” meaning that “I considered the full (albeit narrow) literature on the full (albeit narrow) subject of Flint-specific skin rashes.” *Id.*, PageID.78609. This is not a valid application of the Bradford Hill criteria.

Invalid conclusions from the UCG Report. Dr. Michaels says that the UCG Report confirms that the corrosivity of Flint River water was capable of causing skin rashes. Michaels Br. 10, PageID.78198. As VNA explained, the UCG Report actually concluded the opposite, stating that because of the available data, it was “impossible” to determine whether Flint River water caused skin rashes. *Id.* (quoting Ex. 4, UCG Rep. 10, ECF No. 2456-5, PageID.78346).

In response, Plaintiffs accuse VNA of cherry-picking language from the UCG Report and assert that the report was referring only to water at the time of the report (*i.e.*, when water was supplied by Detroit). Opp. 102-03, PageID.83063-83064. That is mistaken. The UCG’s full conclusion was:

While we were unable to find a consistent pattern relative to the rashes and current water quality, our findings were limited by the lack of historical data. One plausible hypothesis, however, is that conditions present *during the period when water was sourced from the Flint River* (e.g. variable pH, hardness, and chlorine levels) could have triggered skin irritation, dryness and rashes for a subset of susceptible

individuals. Further, these conditions could have been exacerbated by a variety of factors, including seasonal household conditions (e.g. the heat being on with windows closed in the winter), self-care practices (e.g. use of some lotions and creams), and fear and anxiety associated with the water crisis overall. Unfortunately, the lack of historical data on either rash patterns in the community or residence-specific water samples *from that time period* make drawing definitive conclusions impossible.

Ex. 4, UCG Rep. 9-10, ECF No. 2456-5, PageID.78345-78346 (emphases added).

In this context, it is clear that the UCG concluded that it was “impossible” to “draw definitive conclusions” about whether Flint River water could have caused skin conditions. Michaels Br. 4, PageID.78192.

In stark contrast, Dr. Michaels states his opinion that the report “unambiguously, though evidently unconsciously, confirms direct causation of skin rashes, and direct and/or indirect causation of hair loss” and that it “confirms that the high levels of Flint municipal water corrosivity during the Flint Water Crisis were capable of causing skin rashes among exposed Flint residents.” Michaels Rep. 4, ECF No. 2456-3, PageID.78226.

In their brief, Plaintiffs concede that the UCG Report does not analyze whether water conditions during the water crisis were capable of causing skin rashes. Opp. 110, PageID.83071. Plaintiffs claim that Dr. Michaels’s opinions are supported by select statements made by the UCG, even if not by the conclusions of the UCG Report. *Id.* But those UCG statements are mere hypotheses, not reliable evidence of causation. *Id.* at 110-11, PageID.83071-83072 (quoting UCG

statements that Flint River water “could have played a role” and was a “possible explanation” for skin rashes).

In addition, Dr. Michaels’s reliance on the percentages of survey respondents who self-reported the date of onset of their skin rashes reveals his flawed methodology. He uses this comparison as evidence of causation even though it is based on self-reports, lacks a control group, and does not control for statistical error, systematic bias, or confounding by third factors. This is not a reliable basis to establish an association, let alone causation. Ex. 5, Weed Rep. 16-17, ECF No. 2456-6, PageID.78438-78439; Ex. 6, Benson Rep. 74, ECF No. 2456-7, PageID.78576; Ex. 9, Gelfand Rep. 5, ECF No. 2456-10, PageID.78685; Michaels Br. 8-9, PageID.78196-78197.

Likewise, Dr. Michaels claims that a “before versus after” study without a control group can establish causation. VNA’s expert disagrees. Ex. 5, Weed Rep. 18, ECF No. 2456-6, PageID.78440. More importantly, this claim is not relevant because the UCG Report is not a “before versus after” study. Michaels Br. 12-13, PageID.78200-78201.

2. Dr. Michaels’s Opinion Is Both Unreliable And Unhelpful Because He Fails To Identify The Levels Of Chlorine, pH, Water Hardness, And Metals That Can Cause Skin Rashes

VNA explained that a separate problem with Dr. Michaels’s skin rash opinion is that he failed to identify the levels of contaminants that can cause skin rashes, as

Michigan law requires for proving general causation. Michaels Br. 13-21, PageID.78201-78209. Plaintiffs acknowledge that Michigan law requires them to offer reliable evidence that the level of exposure was capable of causing the alleged injury. Opp. 114-15, PageID.83075-83076 (quoting *Lowery*, 500 Mich. at 1034 (Markman, J., concurring)). Because Dr. Michaels agrees that there are thresholds of exposure to chlorine, pH, water hardness, and metals in water below which skin rashes will not occur (Michaels Br. 16, PageID.78204), Plaintiffs cannot establish general causation without evidence of the exposure levels that can cause skin rashes.

Plaintiffs cite an Eleventh Circuit case for the proposition that a court need not undertake an extensive *Daubert* analysis on the general-toxicity question “when the medical community recognizes that the agent causes the type of harm a plaintiff alleges.” Opp. 115, PageID.83076 (quoting *McClain*, 401 F.3d at 1239). But, as in *McClain* itself, the scientific community does *not* recognize the general-causation theory alleged by Plaintiffs. *McClain*, 401 F.3d at 1239; *see* Ex. 5, Weed Rep. 14-18, ECF No. 2456-6, PageID.78436-78440; Ex. 6, Benson Rep. 72-77, ECF No. 2456-7, PageID.78574-78579; Ex. 9, Gelfand Rep. 1-6, ECF No. 2456-10, PageID.78681-78686.

Plaintiffs cite *Westberry v. Gislaved Gummi AB*, 178 F.3d 257 (4th Cir. 1999), to support their position that evidence about exposure levels is not required, but that case is not relevant. Opp. 118, PageID.83079. In *Westberry*, general causation was

not disputed; the expert testimony at issue concerned specific causation. *Westberry*, 178 F.3d at 264. In addition, the court found that testimony concerning the level of airborne talc was adequate to permit a factfinder to conclude that the plaintiff was exposed to high concentrations of that substance. *Id.*

The cases Plaintiffs cite on the dose-response relationship also do not support their position that evidence of exposure levels is not required. *See In re Johnson & Johnson Talcum Powder Prods. Mktg., Sales Practices & Prods. Litig.*, 509 F. Supp. 3d 116, 179 (D. N.J. 2020) (explaining that the causation experts “pinpointed studies that demonstrate evidence of dose-response, i.e., meta-analyses, and adequately explained why the studies, themselves, are reliable”); *Ferguson v. Riverside Sch. Dist. No. 416*, No. CS-00-0097-FVS, 2002 WL 34355958, at *5-*8 (E.D. Wash. Feb. 6, 2002) (addressing dose-response in relation to testimony by medical doctor about specific causation, not general causation, which was not at issue in the case).¹⁵

Plaintiffs contend that “even if [Dr. Michaels] cannot specify precise exposure levels,” they can rely on his assertion that attributing causation of skin rashes to Flint water is analogous to attributing the death of someone in a house that was on fire to a combination of smoke inhalation and fire even if measurements of the smoke and

¹⁵ Plaintiffs offer no response to VNA’s arguments that Dr. Michaels’s generic dose-response curve and his “synergism” theory do not cure his failure to identify exposure levels at which chlorine, pH, water hardness, and metals in water can cause skin rashes. As explained in VNA’s opening brief, this testimony is not admissible because it is not reliable and not helpful. Michaels Br. 17-21, PageID.78205-78209.

fire are lacking. Opp. 119-20, PageID.83080-83081. This analogy is inapt. As Dr. Michaels recognizes, the Bradford Hill “analogy” criterion turns on “examples of similar risk factors and outcomes.” Michaels Rep. 12, ECF No. 2456-3, PageID.78234; *see also* Ex. 6, Benson Rep. 76, ECF No. 2456-7, PageID.78578 (“The analogy guideline is typically supported by evidence from peer-reviewed literature that a similar exposure has led to the same or a similar disease outcome”). It is indisputable that risk factors for house fires are not analogous to risk factors associated with water-quality parameters and skin rashes. Dr. Michaels’s house fire analogy is no substitute for reliable scientific evidence of exposure levels.

3. Dr. Michaels’s Opinion Is Not Supported By Sufficient Facts Or Data Because It Is Not Based On Measurements Of Chlorine, pH, Water Hardness, And Metals In Tap Water In Flint Residences

VNA also explained that Dr. Michaels’s general-causation opinion is not reliable because it is not based on any measurements of chlorine, pH, water hardness, and metals in tap water at Flint residences during the City’s use of the Flint River. Michaels Br. 22-23, PageID.78210-78211. Conceding that Dr. Michaels did not rely on data on the water quality of tap water at Flint residences, Plaintiffs suggest that data on the water quality at the Flint Water Treatment Plant constitute evidence of water quality at Flint residences because water flows from the plant to the residences. Opp. 121, PageID.83082. Plaintiffs contend that this theory is supported by Dr.

Michaels's deposition testimony and the UCG Report (*id.*), but they are wrong on both counts.

First, when asked if he had “no basis to say whether free chlorine residuals at the plant tap will be the same, greater, or less than free chlorine residuals at the customer tap,” Dr. Michaels responded: “No, that’s not correct. I would say that it’s very likely that parameters such as that one vary by—by location, and in which direction, I don’t know if it is consistently one way or the other, but it is likely to be a variable condition, a variable parameter.” Ex. 3, 2022 Michaels Dep. 69:3-8, ECF No. 2456-4, PageID.78314. Thus, contrary to Plaintiffs’ assertion, Dr. Michaels testified that water-quality parameters at Flint residences varied from water-quality parameters at the treatment plant.

Second, the statement in the UCG Report that Plaintiffs refer to actually refutes their theory that levels of chlorine, pH, water hardness, and metals at the treatment plant were “highly correlated” with levels at Flint residences. Opp. 121, PageID.83082. In connection with water testing at residences conducted in 2016—well after the return to Detroit water—the UCG found that levels of some metals in the water “are likely the result of corrosion of water service lines and/or internal plumbing due to inadequate corrosion control when the Flint River served as the water source.” Ex. 4, UCG Rep. 8, ECF No. 2456-5, PageID.78344. That is, the UCG found that the levels of some metals in water at Flint residences were

attributable to equipment located between the treatment plant and the home tap (*i.e.*, water service lines and internal plumbing). This effect would be expected to vary among residences and other locations within the distribution system and would depend on the composition of the service lines and internal plumbing at each residence and other factors at the location such as water age. *See* Gagnon Rep. 2, 4-10, 23-24, 27-28, 35, ECF No. 1370-17, PageID.46378, PageID.46380-46386, PageID.46399-46400, PageID.46403-46404, PageID.46411. Therefore, this UCG finding directly contradicts Plaintiffs’ theory that water quality at Flint residences was highly correlated to water quality at the treatment plant.¹⁶

Plaintiffs recognize the “analytical gap” between the water at the treatment plant and the water at Flint residences. Opp. 121-22, PageID.83082-83083. They criticize VNA for failing to bridge the gap, but it is their burden to establish the admissibility of Dr. Michaels’s testimony. *See Nelson v. Tenn. Gas Pipeline Co.*, 243 F.3d 244, 251 (6th Cir. 2001). “[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.” *Joiner*, 522 U.S. at 146.

¹⁶ In addition, the UCG Report states that “we cannot be certain that the measurements at the water distribution system and the conditions at individuals’ residences were the same.” Ex. 4, UCG Rep. 29, ECF No. 2456-5, PageID.78365.

B. Dr. Michaels's General-Causation Opinion That Corrosive Water Was Capable Of Causing Hair Loss Should Be Excluded

Dr. Michaels also offers the opinion that Flint water conditions were capable of causing at least temporary hair loss as a secondary effect of scratching and scalp irritation. VNA explained that this opinion is irrelevant because Plaintiffs do not claim hair loss, and unreliable because it is not based on sufficient facts or data. Michaels Br. 24-25, PageID.78212-78213.

In response, Plaintiffs concede that they do not claim hair loss as an independent harm. Opp. 122, PageID.83083. They also do not dispute that Dr. Michaels does not opine that hair loss was caused directly as a result of exposure to corrosive water in Flint. Michaels Br. 24 n.4, PageID.78212. Instead, Plaintiffs suggest that they offer Dr. Michaels's opinion that corrosive water was capable of causing hair loss as evidence that the water was capable of causing underlying skin rashes. Opp. 122, PageID.83083.

That attenuated opinion fails as well. Dr. Michaels does not supply any scientific evidence to support his premise that increased scalp scratching or irritation caused by skin rashes due to the water was capable of causing hair loss. Michaels Rep. 24-26, ECF No. 2456-3, PageID.78246-78248. Plaintiffs point to anecdotal evidence of hair loss among Flint residents (Opp. 123, PageID.83084), but such evidence is not sufficient to establish general causation. Plaintiffs also point to Dr. Michaels's Bradford Hill analysis (*id.*), but that analysis is insufficient for the

reasons discussed above. Accordingly, Dr. Michaels's opinion that corrosive water was capable of causing hair loss should be excluded.

VII. Dr. Keiser's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Keiser's Damages Estimates For The Class Are Not Relevant To The Issue-Class Trial

Dr. Keiser opines that residential property in Flint lost approximately a half billion dollars because of the water crisis. Supp. Rep., Ex. A, at 26, ECF No. 2458-3, PageID.79089. VNA explained that this class-wide damages estimate is not relevant to the issue-class trial, which will not address damages. Keiser Br. 5-6, PageID.79046-47. Plaintiffs do not respond to that argument or contend that Dr. Keiser's class-wide damages estimates are relevant to whether "the contaminated water conditions" were "capable of causing harm to Flint . . . properties" in the form of "[d]iminished property value." Corrected Order 5, ECF No. 2250, PageID.73963; Pls.' Notice 1-2, ECF No. 2283, PageID.74157-74158.

Instead, Plaintiffs argue only that Dr. Keiser should be allowed to explain his conclusion "that the average home price in Flint declined between 27% to 39%" relative to his control cities. Opp. 144-45, PageID.83105-83106. Plaintiffs contend that "the magnitude of the change is relevant to the jury's evaluation of whether the water itself was likely capable of causing harm." Opp. 145, PageID.83106. As they see it, "[a] jury's evaluation of Dr. Keiser's ultimate conclusions could potentially

be affected by the *change* in home prices he determined: a 1% decline in prices is different from a 25% decline, which is different from an 80% decline.” *Id.*

As an initial matter, the parties appear to agree that Dr. Keiser’s estimate of the alleged dollar value of the class-wide loss in property value is not relevant to the issue trial. At minimum, that aspect of his opinions should be excluded.

Dr. Keiser’s opinion regarding the percent decline in average home prices also is irrelevant. The jury will not be asked to decide how much property values declined, but only whether it is possible that the contaminated water caused declines. The only relevant question, then, is whether the declines that Dr. Keiser found were statistically significant. VNA does not object to Dr. Keiser testifying that he found a statistically significant decline in home prices, but the specific percentage declines he claims to have found are not relevant and should be excluded.

B. Dr. Keiser’s Damages Estimates For The Class Would Waste Time, Confuse The Issues, Mislead The Jury, And Unfairly Prejudice VNA

VNA also explained that presenting Dr. Keiser’s class-wide damages estimate would take a great deal of time (including both Dr. Keiser’s and rebuttal expert testimony), confuse the jury, and be unduly prejudicial to VNA. Keiser Br. 6-8, PageID.79047-79049. Plaintiffs do not dispute any of that. Instead, they assert that there must not be any dispute about Dr. Keiser’s calculations because VNA has not challenged them under Rule 702. Opp. 146, PageID.83107. But the fact that Dr.

Keiser’s opinions may meet the standard for reliability under *Daubert* does not mean that they are correct. If Dr. Keiser were to testify about his class-wide estimate of lost property valuation, it would take a significant amount of trial time to explain to the jury why his half-billion-dollar figure is not correct.

Plaintiffs also point out that VNA “cite[s] no sources in support of” its argument that it would be prejudicial to expose the jury to such large dollar figures. Opp. 147, PageID.83108. It is a matter of common sense, however, that such enormous figures—in a trial in which the jury will not be called upon to award damages—can only have the effect of diverting the jury’s deliberations into irrelevant topics and prejudicing the jury against VNA.

C. VNA’s Motion Is Timely And Appropriate

Finally, Plaintiffs suggest that VNA’s motion “should be denied as premature because it does not actually raise a *Daubert* challenge at all,” but instead is purely a relevance challenge under Rule 402. Opp. 143, PageID.83104. On the contrary, under Rule 702, courts have the “basic gatekeeping obligation” to ensure the “reliability *and relevancy* of expert testimony.” *Kumho Tire*, 526 U.S. at 147, 152 (emphasis added). Indeed, Rule 702 states that an expert may provide opinion testimony only if it will “help the trier of fact to understand the evidence or to determine a fact in issue.” Fed. R. Evid. 702(a). In short, expert testimony must

both “rest[] on a reliable foundation” and be “relevant to the task at hand.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993).

But even if VNA’s argument rested solely on Rule 402, this motion would not be premature. Dr. Keiser’s attempt to quantify lost property value across the class became irrelevant as soon as the Court denied Plaintiffs’ motion to certify a property-value damages class. That will not change. There thus is no reason to put off ruling on this issue.

VIII. Dr. Simons’s Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Simons’s Opinions Purporting To Detect And Quantify Actual Business Losses In Flint Are Not Relevant To The Issue-Class Trial

Dr. Simons purported to quantify the business losses caused by the contaminated water for all of the businesses in Flint. VNA explained that those opinions are irrelevant, because the court denied certification of a damages class, and in any individual proceedings, each business-loss plaintiff would have to prove the amount of its loss with financial records and establish that any loss was caused by contaminated water—none would use Dr. Simons’s opinions. Simons Br. 9-10, PageID.80217-80218.

Plaintiffs argue that “[i]t would be unfair to permit Defendants to present supposed criticisms of Dr. Simons without permitting Dr. Simons to provide a fulsome response.” Opp. 156, PageID.83117. But if Dr. Simons does not present

his class-wide opinions, then VNA will not present its criticisms, so there will be no need for him to respond.

Plaintiffs also argue that the fact that Dr. Simons's opinions "involve 'complicated issues of data and economic methodology' demonstrates exactly why they should be permitted." Opp. 157, PageID.83118. But explaining those complicated issues would not serve any purpose because the jury will not be asked to decide injury or damages on a class-wide basis. Spending so much time on irrelevant economic methodology would only confuse the jury and distract it from its task.

B. Dr. Simons's Quantitative Opinions Are Unreliable

1. Neither Of Dr. Simons's Control Groups Is Reliable

VNA also explained that Dr. Simon's methodology is unreliable because he did not use adequate control groups. Simons Br. 11-14, PageID.80219-80222. In its simplest form, Dr. Simons's quantitative opinion is that, because some subsectors of the economy in Flint performed worse than those subsectors in Grand Rapids/Saginaw/Genesee County, any losses experienced by businesses in those subsectors must have been caused by the contaminated water. Simons Br. 4-7, PageID.80212-80215. That reasoning could be valid only if there is evidence that the economy in Flint would have performed the same as the economy in Grand Rapids/Saginaw/Genesee County if not for the contaminated water. Because Dr.

Simons failed to use a recognized economic method to validate his controls, his quantitative opinions are not economically reliable.¹⁷

Recognizing that Dr. Simons failed to do what an economist should have done to validate his control group, Plaintiffs insist that it is instead a “comparison” group, which they say should not be held to the same standards. Opp. 158, PageID.83119. Yet they cite no economic authority for that concept and, time and again, they cite these comparisons as the justification for attributing losses to the contaminated water. Opp. 151-52, 158, 165, 168 PageID.83112-83113, PageID.83119, PageID.83126, PageID.83129. Whatever he calls the comparators, because Dr. Simons has not proved that the economy in Flint would have performed the same as the economies in those cities, he has no reason to attribute the losses he found to the contaminated water (rather than the numerous other factors that distinguish Flint’s economy from the economy in Grand Rapids or Saginaw or the rest of Genesee County).

Plaintiffs contend that “proximity” is enough to prove the economic validity of a control group. Opp. 158-59, PageID.83119-83120. But they cite no authority for that assertion, and it is obviously false. It is akin to claiming that, if there are any economic subsectors in Ann Arbor that did worse than those subsectors in

¹⁷ This situation is thus fundamentally different from the cases that Plaintiffs cite in which there were marginal disputes about the control group selected by an expert using a reliable methodology. Opp. 161, PageID.83122.

Ypsilanti in 2015, then the hiring of Jim Harbaugh that year to coach football at the University of Michigan must have caused every dollar lost by Ann Arbor businesses in those subsectors.¹⁸

Plaintiffs also try to insulate Dr. Simons's control group from Dr. Keiser's selection of Pontiac and express rejection of Genesee County as a valid comparator for Flint by arguing that Dr. Simons was looking at an elastic rather than an inelastic phenomenon. Opp. 159, PageID.83120. Plaintiffs do not explain how that changes the criteria used to validate a control group. Regardless, the problem is not that Dr. Simons used a different set of criteria to validate his control/comparison group, but that Dr. Simons admittedly failed to conduct any economic validation at all. Simons Br. 11-12, PageID.80219-80220.

Finally, Plaintiffs completely fail to grasp the problem with using Genesee County to test Dr. Simons's redirected-spending theory of harm. The issue has nothing to do with the fact that Dr. Simons was concerned about the spending practices of both Flint and county residents. Opp. 160, PageID.83121. The problem is that, according to Dr. Simons's theory, each dollar "lost" to Flint was "gained" by Genesee County, which means that when he calculated the difference between Flint

¹⁸ Moreover, Plaintiffs are simply wrong in suggesting that proximity explains why Dr. Simons chose Grand Rapids and Saginaw rather than Pontiac, which is the city that Dr. Keiser determined is most similar to Flint using an actual economic analysis. Simons Br. 12-13, PageID.80220-80221. Pontiac is much closer to Flint than Grand Rapids and is essentially the same distance from Flint as Saginaw.

and Genesee County, he necessarily double counted the effect of the phenomenon he purported to be examining. Simons Br. 13-14 & n.6, PageID.80221-80222. That is directly contrary to the definition of a control group.

2. Dr. Simons's Data Are Unreliable

VNA explained that Dr. Simons's quantitative opinions are unreliable because he relied on estimated revenue data from ReferenceUSA, yet he has no idea how ReferenceUSA calculates that data and the data are systematically inaccurate and contain absurd irregularities that Dr. Simons admitted cannot be correct. Simons Br. 15-16, PageID.80223-80224. Plaintiffs do not respond to any of that, but simply insist that the data must be reliable because two law professors have relied on the data. Opp. 162, PageID.83123. But the three law review articles that Plaintiffs cite use the data only to identify the locations of businesses. They do not rely on ReferenceUSA to provide business revenue (or any other financial) information. So they are irrelevant to the issue here.

VNA further explained that both VNA's expert and Dr. Simons himself have confirmed that ReferenceUSA data on "closed" businesses are systematically and grossly unreliable. Simons Br. 17, PageID.80225. Plaintiffs do not dispute that. They merely assert—without any citation to the record—that someone from ReferenceUSA told Dr. Simons that "in most cases" the data are accurate. Opp. 163,

PageID.83124. That hearsay statement by an unidentified person has been proven wrong.

Plaintiffs suggest that the unreliability of ReferenceUSA data goes to “the scope of losses” that Dr. Simons purports to have identified and is simply a basis for a “battle of the experts.” Opp. 163-64, PageID.83124-83125. But analysis based on a type of data that has not been proven to be reliable cannot produce reliable results. *Bruno v. Bozzuto’s, Inc.*, 311 F.R.D. 124, 137 (M.D. Pa. 2015) (“Striking expert evidence due to its reliance on questionable data is not a novel course of action.”); *Coffey v. Dowley Mfg., Inc.*, 187 F. Supp. 2d 958, 974 (M.D. Tenn. 2002) (excluding expert opinion as “not based on sufficient facts and data” because expert used unreliable inputs for computer model), *aff’d*, 89 F. App’x 927 (6th Cir. 2003). ReferenceUSA’s data do not provide a reliable foundation for an opinion about lost revenues or business closure rates.

3. Dr. Simons’s Methodology Is Results-Oriented

Dr. Simons’s methodology also is flawed because it is results-oriented. Dr. Simons began by predicting a pattern of losses in Flint that was similar to the pattern he identified from past economic contractions. He did not find such a pattern.¹⁹ But

¹⁹ Plaintiffs do not dispute that Dr. Simons’s final comparison with Genesee County found statistically significant underperformance in Flint in only 4 out of the 26 subsectors in 11 out of the 23 sectors in which he originally predicted losses. Simons Br. 18, PageID.80226. That is not a validation of his hypothesis.

he never even considered whether he had disproved his hypothesis. Instead, he simply proceeded to calculate damages for each business subsector in which Flint performed worse than his comparison cities. Simons Br. 18-19, PageID.80226-80227.

Plaintiffs do not respond to this flaw, but argue that Dr. Simons's method was not results-oriented because he "made no prior assumptions regarding outcomes." Opp. 164, PageID.83125. The problem, however, is not that Dr. Simons "fixed" the results, but that he failed to recognize that his results do not validate his hypothesis.

Indeed, Plaintiffs effectively admit that Dr. Simons's methodology guaranteed that he would find losses caused by the water. They state that "Dr. Simons's methodology [was] designed to determine . . . whether there was at least one business subsector that could have suffered losses attributable to the Flint Water Crisis." Opp. 165-66, PageID.83126-83127. But no two cities are identical and a methodology that finds causation based on a single point of difference between two cities is a methodology that cannot fail (especially when its inventor keeps changing the control group in an effort to find differences). On this reasoning, for example, Dr. Simons proved that uncontaminated water harmed businesses in Genesee County because Genesee County performed worse than Flint in some subsectors (subsectors in which Dr. Simons's hypothesis wrongly predicted losses for Flint businesses). A methodology that validates a hypothesis if there is even a single confirming data

point—and despite the broad predictive failure of the hypothesis—is results-oriented and not good science.

4. Dr. Simons Failed To Account For Alternative Explanations

Dr. Simons' methodology also is flawed because he did not rule out alternative explanations for the losses he claimed to have found. Simons Br. 19-20 PageID.80227-80228. Plaintiffs say he accounted for alternative explanations through his comparisons to Grand Rapids/Saginaw/Genesee County, Opp. 167-68, PageID.83128-83129, but as explained above, he never validated that the economies in those cities were performing like the economy in Flint before the water crisis, *see* pp. 56-58, *supra*. Accordingly, those comparisons cannot rule out alternative economic causes of the differences he found.

Plaintiffs also argue that there is no need to rule out alternative explanations because they need to show only that the water was capable of causing losses, not that it actually caused all of the losses that Dr. Simons identified. Opp. 168-69, PageID.83129-83130. But Dr. Simons cannot rule out the possibility that all of the losses he identified were caused by factors other than contaminated water. In any event, this argument only proves the prejudicial nature of Dr. Simons's quantitative opinions. Plaintiffs want Dr. Simons to tell the jury that the water caused "X" amount of business losses, but they admit that he has no way to know if a significant portion of that amount was caused by other factors for which he did not control.

C. Neither Of Dr. Simons's Theories About How The Contaminated Water Harmed Flint Businesses Is Reliable

Dr. Simons has two theories for how contaminated water harmed Flint businesses: first, that the water caused Flint residents to reduce their discretionary spending because they were forced to spend more on aversion costs like bottled water, and second, that the water caused consumers to avoid businesses in Flint that involved contact with water and redirect their spending elsewhere. VNA explained that Dr. Simons should not be allowed to present those theories to the jury because he did nothing to test their validity and they are contrary to the available evidence. Simons Br. 21-25, PageID.80229-80233.

Plaintiffs argue that testing these theories was unnecessary, because Dr. Simons's "analysis rests on the fundamental principle of the income elasticity of demand—the idea that an economic contraction will affect the sale of certain goods or services." Opp. 169-70, PageID.83130-83131. But he did not test the hypothesis that the contaminated water caused an economic contraction, either. That is effectively what his reduced-discretionary-spending hypothesis postulated—that the water caused an economic contraction by forcing residents to spend their discretionary funds on aversion costs. Plaintiffs do not deny, however, that their other expert, Dr. Keiser, disproved that hypothesis. Simons Br. 21-22, PageID.80229-80230.

Further, the income elasticity of demand has nothing to do with Dr. Simons's second theory of harm—that consumers avoided certain businesses because they were concerned about coming into contact with Flint water. Plaintiffs do not deny that Dr. Simons's methodology could not test that hypothesis because he started with a universe of businesses in which he expected losses due to reduced discretionary spending and never systematically examined businesses where consumers come into contact with water. Simons Br. 22-23, PageID.80230-80231. Nor do they dispute that Dr. Simons's actual results contradict this new theory because he did not find losses in many subsectors that involve contact with water and did find losses in subsectors that have nothing to do with water. Simons Br. 23-25, PageID.80231-80233.

Both of Dr. Simons's theories about how the water could harm Flint businesses are untested and inconsistent with the available evidence. They are “too speculative” to be admitted and are “simply a hypothesis presented in the guise of knowledge.” *Valentine v. Jones Lang Lasalle Ams., Inc.*, No. 13-cv-10888, 2014 WL 4906726, at *4 (E.D. Mich. Sept. 30, 2014).

IX. Dr. Reicherter's Challenged Opinions And Related Testimony Should Be Excluded

A. Dr. Reicherter's Opinion About Community Trauma Is Not Relevant To The Issues Trial

Dr. Reicherter diagnoses the community of Flint with a condition called community trauma. That opinion about a class-wide mental health diagnosis is not relevant to the issue-class trial, because the Court denied Plaintiffs' motion for class-wide injunctive relief related to mental health effects of the contaminated water. Reicherter Br. 8-10, PageID.79253-79255.

Plaintiffs contend that Dr. Reicherter's opinion nonetheless is relevant to the issue-class trial because "the manifestation of community trauma is a higher prevalence of mental health disorders within a community," which ostensibly "demonstrates that the contaminated water conditions were in fact capable of causing harm to Flint residents' mental health and emotional wellbeing." Opp. 130, PageID.83091 (cleaned up). But that explanation is circular: Dr. Reicherter's diagnosis of community trauma depends on his claim that he identified a higher prevalence of mental health disorders among Flint residents. Ex. 2, Updated Decl. ¶¶ 42-58, ECF No. 2459-3, PageID.79277-79283. His community-trauma diagnosis thus is the *result* of a supposed higher prevalence of mental health disorders among individuals, so he cannot use it to show that community trauma will lead to additional instances of mental health disorders among individuals.

Plaintiffs also fail to respond to VNA's argument that Dr. Reicherter's opinions about community trauma also should be excluded under Rule 403 because they would add significant time to the trial, risk confusing the jurors about the issue actually before them, and prejudice Defendants by appealing to the jury's sympathy. Reicherter Br. 9, PageID.79254. Insofar as Plaintiffs mean to make the same arguments that they make in opposition to VNA's similar argument about Dr. Keiser's class-wide damages estimate, VNA refers the Court to its reply to those arguments. *See* pp. 53-54, *supra*.

B. Dr. Reicherter's Opinion That The Contaminated Water Actually Caused An Increase In Negative Mental Health Outcomes In Flint Is Not Supported By Reliable Methods

VNA explained that the methodology that Dr. Reicherter used to conclude that the allegedly contaminated water caused a higher prevalence of negative mental health outcomes among Flint residents (the basis for his diagnosis of community trauma) is unreliable. Reicherter Br. 10-17, PageID.79255-79262.

1. Dr. Reicherter Does Not Apply A Reliable Method For Determining Whether The Prevalence Of Negative Mental Health Outcomes In Flint Is Elevated

The fundamental problem with Dr. Reicherter's method for identifying an increased prevalence of negative mental health outcomes is that he compared self-reported survey data with national data from the APA that is based on diagnoses by mental health professionals. Reicherter Br. 10-14, PageID.79255-79259. It is as if

someone concluded that a city has elevated levels of basketball talent because ten percent of the high school players in the city “self report” that they are top-level college recruits, whereas professional college scouts say that, on average, only one percent of high school players nationally are top-level recruits. The data sets are simply not comparable.

Plaintiffs point out that self-reports have value in certain contexts and are sometimes admitted in the courtroom. Opp. 132-36, PageID.83093-83097. But the fact remains that self-reported data is not comparable to data based on diagnoses by mental health professionals: It is considered significantly less reliable, has acknowledged biases toward overreporting, and is often excluded from courtrooms because of these recognized issues. Reicherter Br. 11-14, PageID.79256-79259. Plaintiffs also miss the mark when they assert that using self-reported data from CASPER is the “best practice in the field.” Opp. 132, PageID.89093. It may be the best practice for identifying a need for mental health services in an emergency situation, but comparing CASPER survey results to national rates of diagnoses by mental health professionals is not a “best practice” for establishing the causal effect of an event after the fact. *Compare* Ex. 6, 2023 Reicherter Dep. 200:24-201:19, ECF No. 2459-7, PageID.79414-79415 (CASPER is “designed to be a litmus test . . . for emergencies” and “[t]here are better methods probably but not in these emergency situations”); *with id.* at 206:8-23, PageID.79420 (agreeing that “[s]tructured

interviews by a mental health professional remains the best practice for diagnosing mental health disorders”). Indeed, Plaintiffs do not cite any evidence that other experts in Dr. Reicherter’s field have relied on such comparisons to reach analogous conclusions about causation.

In a footnote, Plaintiffs assert that the data sets are actually comparable because “the national prevalence rates of mental-health disorders as reported by the APA are also based upon self-reports from individuals across the country.” Opp. 136 n.49, PageID.83097. That is not accurate. Mental health professionals start by interviewing their patients, but then apply their expertise, including their knowledge of the relevant DSM-V criteria, to come to a diagnosis. They do not simply parrot back whatever the patients said. As Dr. Reicherter testified, “in the psychiatric community, there’s a difference between a diagnostic interview and a self-reporting survey . . . for sure.” 2023 Reicherter Dep. 195:20-196:1, PageID.79410-79411. He further explained that when the patient reports a symptom during an interview, “it’s not just a check mark . . . it might need to be through a clinical interview sorted out a little bit more to confirm or deny whether that symptom is part of the checklist or meets the threshold for inclusion [in the diagnosis].” *Id.* at 207:6-15, PageID.79421. In sum, the process that a mental health professional goes through when diagnosing a patient with a mental health disorder under the DSM-V is not equivalent to simply asking subjects whether they have a mental health disorder.

Because the data that Dr. Reicherter used to evaluate the prevalence of negative mental health outcomes in Flint is not comparable to the data he used to establish the average prevalence of negative mental health outcomes across the country, he cannot reliably opine that prevalence rates in Flint are elevated.

2. Dr. Reicherter Does Not Have A Reliable Method For Concluding That The Contaminated Water Caused An Increase In The Prevalence Of Negative Mental Health Outcomes

VNA explained that even if Dr. Reicherter could reliably opine that the prevalence of negative mental health outcomes in Flint is elevated, he could not reliably attribute that elevated level to the contaminated water because he has no information about the prevalence of negative mental health outcomes in Flint before the water crisis. Reicherter Br. 14-17, PageID.79259-79262.

Plaintiffs point out that Dr. Reicherter “opines generally that an event that threatens the actual or perceived safety of a community causes increased risk of poor psychological outcomes.” Opp. 137, PageID.83098. VNA has no objection to Dr. Reichert offering that opinion as part of an explanation of why, according to general psychological principles, an event like the water crisis can cause negative mental health outcomes. But simply having a general theory about how an event like the water crisis might affect mental health outcomes does not allow Dr. Reicherter to rule out other potential causes for the statistical increase in the prevalence of negative mental health outcomes he purported to detect in Flint. In order to rule out other

potential causes and attribute those alleged elevated levels to the contaminated water, Dr. Reicherter would need to show—at minimum—that the prevalence of negative mental health outcomes in Flint went up after the water crisis. He does not even attempt to do that. As it stands, he cannot rule out the possibility that the elevated levels of negative mental health outcomes he purported to find in Flint were there before the water crisis and are caused, not by contaminated water, but by the numerous other socioeconomic factors that Dr. Reicherter acknowledged might cause adverse mental health outcomes in Flint.

For similar reasons, it is no response to note that an event like the water crisis could, in theory, “compound pre-existing conditions” “in already-vulnerable communities.” Opp. 137-38, PageID.83098-83099. Again, to attribute causation to the contaminated water on this theory, Dr. Reicherter would need to demonstrate that there already were elevated levels of negative mental health outcomes in Flint, but the levels increased after the water crisis. He does not do that. Accordingly, he has no reliable way of showing that the contaminated water caused an increase in the prevalence of negative mental health outcomes in Flint.

CONCLUSION

The Court should exclude the challenged opinions and related testimony.

Respectfully submitted,

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Dated: July 19, 2023

CERTIFICATE OF SERVICE

I hereby certify that on July 19, 2023, I electronically filed this document with the Clerk of the Court using the ECF System, which will send notification to the ECF counsel of record.

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